

GOVERNMENT OF INDIA  
MINISTRY OF SCIENCE AND TECHNOLOGY  
DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH  
**RAJYA SABHA**  
**UNSTARRED QUESTION No. 1727**  
(TO BE ANSWERED ON. 13.03.2025)

**E-TRACTOR**

1727. Shri Banshilal Gurjar:

Will the Minister of **SCIENCE AND TECHNOLOGY** be pleased to state:

- (a) whether it is a fact that Council of Scientific & Industrial Research (CSIR) has developed e-tractor;
- (b) if so, the details thereof and if not, the reasons therefor; and
- (c) if so, the details of other tractors developed by CSIR?

**ANSWER**

**MINISTER OF STATE (INDEPENDENT CHARGE)**  
**SCIENCE AND TECHNOLOGY AND EARTH SCIENCES**  
**(DR. JITENDRA SINGH)**

(a) & (b) CSIR-Central Mechanical Engineering Research Institute (CSIR-CMERI), Durgapur - a constituent laboratory of the Council of Scientific & Industrial Research (CSIR) has indigenously designed and developed a compact 100% Pure Electric Tractor named CSIR PRIMA ET11 mainly to cater to small and marginal farmers of India. This tractor has a base power of 11 HP, which falls in the category of N1 tractors. The entire tractor has been designed and manufactured with indigenous components and technologies. One of the significant USP of the developed tractor is that it is Women-friendly. The key features of the developed electric tractor are as under:

- Robust and improvised electro-mechanical drivetrain.
- Modular design and better maintainability and serviceability
- Best-in-class hydraulic capacity
- Intelligently controlled prime movers
- Indigenous development of instrument cluster
- Vehicle health monitoring features
- Improvised drivetrain for smooth transition of gears
- Electric Vehicle to Load feature (V2L concept)
- Women-friendly design
- Indigenous and cost-effective

The technology has been licensed to two industries namely, M/s KN Biosciences Pvt. Ltd, Hyderabad and M/s Sunrise Transmission, Rajkot for commercialization.

(c) The brief details of other tractors developed by CSIR are as under:

**SWARAJ Tractor:** Since the post-independence era, when agriculture was critical to India's survival, CSIR-CMERI has been at the forefront of technological self-reliance. CSIR-CMERI has designed and developed India's first indigenous Tractor in 1974, which played a pivotal role in the Green Revolution, driving the widespread adoption of tractor technology. The technology was licensed to M/s. Punjab Tractors which was later acquired by M/s. Mahindra and Mahindra in 2007.

**SONALIKA Tractor:** CSIR-CMERI designed and developed the know-how of 35 HP Tractor and transferred the technology to M/s International Tractors Limited, Hoshiarpur for commercialization in the year 2002 as Sonalika Tractor. The tractor is suitable for medium and large landholdings.

**KRISHISHAKTI Tractor:** As a new leaf in the CSIR efforts to empower these Indian small farmers, KrishiShakti – a small range diesel engine tractor designed and developed by CSIR-Central Mechanical Engineering Research Institute, Durgapur in 2014. The technology know-how was transferred to M/s. Singha Components Pvt. Ltd., Howrah, has finally received the necessary certification from the Central Farm Machinery Training and Testing Institute, Budni (Madhya Pradesh) and is in the process of commercialization. This technology has also been transferred to M/s. K N Biosciences Pvt. Ltd, Hyderabad.

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